



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,304	11/25/2003	Hirotake Nakamura	004553. 108004	7088
29540	7590	11/07/2006	EXAMINER	
PITNEY HARDIN LLP 7 TIMES SQUARE NEW YORK, NY 10036-7311			UHLENHAKE, JASON S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 11/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/721,304	Applicant(s) NAKAMURA, HIROTAKE	
	Examiner Jason Uhlenhake	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mochizuki et al (U.S. Pat. 6,059,405).

Mochizuki et al discloses:

- ***regarding claim 1***, ink-jet recording apparatus comprising an ink-et printing head (Figure 2: 4,5) which ejects, to a recording medium (Figure 1, Column 2 Lines 50-65), the ink through nozzles (Column 4 Lines 4 – 23, Column 6 Lines 10 – 38)
- First ink-introducing step of initially introducing a first ink into said ink-jet printing head when printing head is initially used, said first ink having a first degree of deaeration (Column 3, Lines 65 – 67; Column 4, Lines 1 - 10)
- Second ink-introducing step of introducing a second ink into said ink-jet printing head after said first ink-introducing step, said second ink having a second degree of deaeration, which is lower than said first degree of deaeration (Column 4, Lines 47 – 56)
- ***regarding claim 8***, wherein the ink packages include an ink bag whose opposite major surfaces are constituted by a pair of flexible walls, and a rigid ink-bag casing which accommodates said ink bag (Figure 5; Column 1, Lines 27 – 41)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al (U.S. Pat. 6,059,405) as modified by Sakanobe et al (U.S. 6,286,934), as applied to claim 1 above, and further in view of Ardito (U.S. Pub. 2002/0191056), and Anderson et al (U.S. Pat. 6,837,577)

Mochizuki et al as modified by Sakanobe et al discloses the all of the claimed limitations except for the following:

- ***regarding claim 3***, ink package is enclosed in a sealing wrapper whose interior space is evacuated to a pressure lower than an atmospheric pressure

- ***regarding claim 4***, a step of taking ink package out of said sealing wrapper

Ardito discloses:

- ***regarding claim 3***, , ink package is enclosed in a sealing wrapper (Figure 1; Paragraph 0020), for the purpose of preventing deformation or breakage of an ink package

- **regarding claim 4**, a step of taking ink package out of said sealing wrapper (Paragraph 0020), for the purpose of preventing deformation or breakage of an ink package

Anderson et al discloses:

- **regarding claim 3**, interior space is evacuated to a pressure lower than an atmospheric pressure (Column 7, Lines 12 – 20), for the purpose of providing fluid communication with an ink source.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of ink package is enclosed in a sealing wrapper whose interior space is evacuated to a pressure lower than an atmospheric pressure; a step of taking ink package out of said sealing wrapper as taught by Ardito and Anderson into the device of Mochizuki et al as modified by Sakanobe et al. The motivation for doing so would have been to prevent deformation or breakage of an ink package and provide fluid communication with an ink source.

Claims 5, 6, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochizuki et al (U.S. Pat. 6,059,405) as modified by Sakanobe et al (U.S. 6,286,934), as applied to claim 1 above, and further in view of Ardito (U.S. Pub. 2002/0191056), and Matsumoto et al (JP 61141560 A)

Mochizuki et al as modified by Sakanobe et al discloses the all of the claimed limitations except for the following:

- **regarding claim 5**, ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air

- **regarding claim 6**, step of taking ink package out of said sealing wrapper before mounting

- **regarding claim 7**, wherein said inert gas is a helium gas

Matsumoto et al discloses the following:

- **regarding claim 5**, ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air, (Abstract) for the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.

- **regarding claim 7**, wherein said inert gas is a helium gas (Abstract) for the purpose of providing an ink-package assembly arranged to minimize deterioration of deaeration of ink.

Ardito discloses:

- **regarding claim 6**, step of taking ink package out of said sealing wrapper before mounting (Paragraph 0020), for the purpose of preventing deformation or breakage of an ink package

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of ink package is enclosed in a sealing wrapper whose interior space is charged with an inert gas that has a degree of solubility in the ink lower than the air; step of taking ink package out

of said sealing wrapper before mounting; wherein said inert gas is a helium gas as taught by Matsumoto et al and Ardito into the device of Mochizuki et al as modified by Sakanobe et al. The motivation for doing so would have been to provide an ink-package assembly arranged to minimize deterioration of deaeration of ink and prevent deformation or breakage of an ink package.

Response to Arguments

Applicant's arguments filed 8/30/2006 have been fully considered but they are not persuasive. Applicant states that Mochizuki (U.S. 6,059,405), does not disclose that ink initially introduced into the recording head upon initial use has a relatively high deaeration degree while ink that has a lower deaeration degree than the initially introduced ink is subsequently introduced after the initial introduction of the ink. Mochizuki discloses that a first ink is initially introduced to the recording heads (4,5) upon initial use has a relatively high deaeration degree (Column 3, Lines 65 –67; Column 4, Lines 1 – 10) from the main tanks (16-19), and a second ink is introduced into the main tanks (16-19) having a lower deaeration degree after the initial introduction of the ink (Column 4, Lines 47 – 56), after the inks are introduced to the main tanks they will be supplied to recording heads via deaerators (Abstract). The claimed limitation does not include an ink package mounted wherein the ink package accommodates a first ink having a first degree of deaeration for the first ink-introducing step, and an ink package mounted wherein the ink package accommodates a second ink having a

second degree of deaeration, which is lower than the first degree of deaeration for the second ink-introducing step.

Allowable Subject Matter

Claims 9-14 are allowed.

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for the indication of allowable subject matter of claim 2 is the inclusion of the method step of wherein the initial use ink package is in a state, before mounting thereof on the mounting portion, in which the initial use ink package is enclosed such that the first ink in the initial use ink package maintains the first degree of deaeration which is higher than the second degree of deaeration of the second ink in the replacement ink package. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 9-14 is the inclusion of the limitation of an ink package mounted on the mounting portion, wherein the ink package comprises an initial use ink package accommodation a first ink having a first degree of deaeration and a replacement ink package accommodating a second ink having a second degree of deaeration which is lower than the first degree of deaeration, the initial use ink package and the replacement ink package being selectively mounted on the mounting portion, the initial use ink package being initially mounted on the mounting

Art Unit: 2853

portion when the ink jet printing head is initially used. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

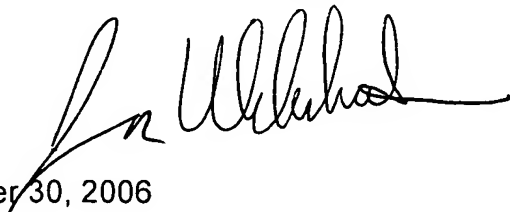
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU
October 30, 2006



STEPHEN MEIER
SUPERVISORY PATENT EXAMINER